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| APPLICATION NO.                                           | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------------------------------------------------|-------------|----------------------|---------------------|------------------|
| 10/680,065                                                | 10/06/2003  | Stephen R. Forrest   | 10020/28101         | 6743             |
| 26646                                                     | 7590        | 06/21/2006           | EXAMINER            |                  |
| KENYON & KENYON LLP<br>ONE BROADWAY<br>NEW YORK, NY 10004 |             |                      | GARRETT, DAWN L     |                  |
|                                                           |             |                      | ART UNIT            | PAPER NUMBER     |
|                                                           |             |                      | 1774                |                  |

DATE MAILED: 06/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/680,065

Applicant(s)

FORREST ET AL.

Examiner

Dawn Garrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 4-10-2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-10 and 12-30 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 10,12-18,24 and 30 is/are allowed.  
6) ☒ Claim(s) 1,4-9,19,20,23,25,26 and 28 is/are rejected.  
7) ☒ Claim(s) 3,21,22,27 and 29 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 06 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. This Office action is responsive to the amendment dated April 10, 2006. Claims 1, 3, 10, 12, 17, and 19 were amended. New claims 22-30 were added. Claims 2 and 11 are canceled. Claims 1, 3-10, and 12-30 are pending.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. The rejection of claims 2, 10, 11, 14-18 under 35 U.S.C. 102(b) as being anticipated by Xie et al. (US 5,989,737) is withdrawn due to the amendment.
4. The rejection of claims 2, 10, 11, 14, and 15 under 35 U.S.C. 102(b) as being anticipated by Shi et al. (US 5,804,322) is withdrawn due to the amendment.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 25 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

It is not seen where the specification supports an electron blocking layer positioned between a first organic emissive layer and a cathode. An electron blocking layer in this position in the EL device is considered to be new matter.

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7. Claims 1, 4-9, 19, 20, 23, 26, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Xie et al. (US 5,989,737). Xie et al. discloses organic electroluminescent devices comprising hole injecting and transporting layers of a mixture of tertiary aromatic amine compound and a polycyclic aromatic hydrocarbon compound (see abstract). The dopant polycyclic hydrocarbon compounds are contained in the hole injecting and transporting layers in an amount of 0.1 to 50 percent weight and act to stabilize the thin film morphology of the hole transport layers (see col. 6, lines 7-14; see also examples and comparative examples). With regard to claim 7, the amines are selected to have a glass transition temperature of higher than about 50 degrees Celsius, which overlaps with the recited range of less than about 70 degrees Celsius (see col. 4, lines 5-7). Dopant coronene taught at col. 6, line 33 has a melting point of 438 degrees Celsius per claim 8. Although Xie et al. does not specify the glass transition property of the hole injecting and transporting layer, the layer is deemed to be within the claimed range of claim 9 given the teachings of the materials used to make the hole injecting and transporting layer. Recitation of a newly disclosed property does not distinguish over a reference disclosure of the article or composition claims. *General Electric v. Jewe Incandescent Lamp Co.*, 67 USPQ 155. *Titanium Metal Corp. v. Banner*, 227 USPQ 773. Applicant bears responsibility for proving that reference composition does not possess the characteristics recited in the claims. *In re Fitzgerald*, 205 USPQ 597, *In re Best*, 195 USPQ 430. The device disclosed by Xie et al. reads upon the limitation of claim 19 where the second organic layer is between the first organic layer and the anode. The devices of Xie et al. are deemed to inherently have the properties required by claim 19, absent evidence to the contrary (see case law citation listed above).

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8. Claims 1, 4-6, 19, 20, 23, 26, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Shi et al. (US 5,804,322). Shi et al. teach EL devices with mixed hole transporting material layers in order to achieve greater stability (see col. 3, 4, 7 and 8). Weight percentages recited at col. 4, lines 59-61 read upon the limitations of claim 5 and 6. The properties recited in the claims are deemed to be inherently met by Shi et al., absent evidence to the contrary.

***Allowable Subject Matter***

9. Claims 10, 12-18, 24, and 30 are allowed. Claims 3, 21, 22, 27, and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The closest prior art is considered to be Xie et al. and Shi et al. discussed in this Office action. This art fails to teach or to disclose a non-emitting layer with a morphologically unstable host as specifically required by claims 3, 10, 12-18, 21, 22, 24, 27, 29 and 30.

***Response to Arguments***

10. Applicant's arguments filed April 10, 2006 have been fully considered but they are not persuasive. Applicant stated the following in the response filed April 10, 2006: "Although the independent claims as amended are broader than the subject matter indicated as allowable in claims 3 and 12, Applicants respectfully assert that the claimed layer or material still distinguishes over the cited art for the same reasons as allowable claims 3 and 12. Specifically, as indicated in the January 9, 2006 Office Action at pages 3-4, '[t]he prior art fails to teach a **hole blocking layer** according to the claim limitations...' Applicants respectfully assert that this logic also applies to blocking layers." Examiner respectfully disagrees with applicant's

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conclusion that all types of blocking layers are distinguished over the prior art. The examiner only specifically stated that a hole blocking layer was distinguished over the prior art. Some of the claims remain rejected over Xie et al. and Shi et al., because these references clearly teach “hole transporting layers”, which are notoriously well known in the art to be synonymous with the term “electron blocking layer” (see U.S. Patent No. 6,204,514 background information discussing the function of hole transporting layers as blocking electrons at col. 1, lines 43-47). The hole transporting layer performs the function of blocking electrons. So, while Xie et al. and Shi et al. do not use the express term “blocking”, they teach layers that perform a blocking function.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached at (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Dawn Garrett  
Primary Examiner  
Art Unit 1774

June 16, 2006